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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,941	03/05/2002	Syun Kyung Lee	201-0148 FGM	5497

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MACMILLAN, SOBANSKI & TODD, LLC
ONE MARITIME PLAZA - FOURTH FLOOR
720 WATER STREET
TOLEDO, OH 43604

EXAMINER

LUM VANNUCCI, LEE SIN YEE

ART UNIT	PAPER NUMBER
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3611

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/683,941

Applicant(s)

LEE ET AL.

Examiner

Ms. Lee S. Lum

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. In view of the Appeal Brief filed on 10/21/04, PROSECUTION IS HEREBY REOPENED. Rejections are provided below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is unclear because "the preemptive mode occurs only after the occurrence of the first mode", as recited in Claim 1. The first mode occurs when a slip condition is detected. So, if there is no slip condition, the preemptive mode does not occur, and therefore, this mode cannot "terminate".

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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A. **Claims 1-3 and 5-8** (2 as best understood) are rejected under 35 U.S.C. 102(b) as being anticipated by Watson et al 6062330.

Watson discloses a four-wheel drive assembly (c1, ln 18-19) comprising
Torque transfer assembly 10 having

First mode (of operation) which increases torque to a slower pair of wheels upon
a sensed slip condition – c2, ln 50-59,

Preemptive mode occurring only after the first mode –c18, ln 16-19, and c20,
third complete paragraph; locking front wheel hubs 16, or disconnect axle, (*Claim 1*)

The preemptive mode terminating after 30 seconds without a slip
condition, (as best understood - *Claims 2 and 3*)

The preemptive mode terminating (implicit in c22, third complete
paragraph; in conjunction with deenergization of clutch) upon attainment of a
certain vehicular speed, and a certain value for the speed differences between
the axles (both in c22, third paragraph) (*Claim 5*),

Wherein the certain speed comprises 25 km/hr, and the certain value
comprises 2 km/hr (Table II) (*Claims 6 and 8*).

B. **Claims 9-12, 14 and 16** are rejected under 35 U.S.C. 102(b) as being anticipated by
Takasaki et al 5752211.

Takasaki discloses a four-wheel drive assembly (c4, ln 14) comprising
Torque transfer assembly (depicted schematically in figs 1,3), including controller 58,

The controller sensing the wheels being on a surface with a low coefficient of
friction (via sensors 101), and, which increases torque to a slower pair of wheels upon a
sensed slip condition (c7, ln 23-28),

The controller sensing the wheels being on the surface via the occurrence
of the slip condition (inherent),

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Preemptive slip mode that ceases at a certain vehicle speed and a certain difference in wheel speeds (c11, last paragraph, to c12, ln 23; existing wheel torques are unaffected by the controller),

The preemptive mode comprising the increase of torque to a slower pair of wheels after determining that slipping is likely to occur on the basis of the vehicle speed, and the position of the accelerator/throttle (c10, second complete paragraph, then, c10, ln 54, to c11, ln 39; "The control system can prevent the slip of the rear wheels" – ln 36-39).

The preemptive mode terminates after a certain time period (fig 7; timed program (e.g., step S34)).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

A. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Watson alone.

Watson discloses the preemptive mode as recurring upon a sensed slip condition after a certain time period – one second – in c20, ln 52-61. The reference does not disclose the time to be 30 seconds, but this specificity would vary according to the parameters of the application. In Watson, the time period is one second, while in another application, vehicle and anticipated traveling conditions, the period would differ. It is extremely well-known that algorithms vary in many aspects, one aspect being the time period in which the particular algorithm is repeated.

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to include a different time period in which the algorithm is repeated. The particular period depends on the vehicle, traveling conditions, and other factors. It is equally obvious that this specificity does not affect the proper function/operation of the invention.

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B. Claims 13, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takasaki alone.

The reference does not specify the vehicular speed as 25 km/hr, the wheel speed difference as 2 km/hr, nor the reset time as 30 secs. However, it is clear that these parameters would depend on the specific application, vehicle, and anticipated travel conditions, as well as other factors.

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to include a different vehicle speed, wheel speed, and reset time, for a particular vehicle and anticipated traveling conditions. It is equally obvious that these specificities do not affect the proper function/operation of the invention.

5. RESPONSE TO REMARKS

Upon reconsideration of the issues raised in the Appeal Brief, Examiner has provided new rejections, both 112/2nd, and art rejections. She apologizes for the inconvenience.


6. The prior art made of record, and not relied upon, is considered pertinent to the disclosure: Hara et al 5803197.

7. Communication with the Examiner and USPTO

Any inquiry concerning this communication, or others, should be directed to Ms. Lum at 571 272-6649, M-Th, 9-6. If attempts to reach the examiner are unsuccessful, her supervisor, Ms. Lesley Morris is at 571 272-6651. Our fax number is 703 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications: private PAIR only, for published applications: private or public PAIR. For more information re PAIR: <http://pair-direct.uspto.gov>. Questions re private PAIR: contact the Electronic Business Center (EBC) at 866 217-9197.

Ms. Lee S. Lum
Examiner
3/3/05



LESLEY D. MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600